



Features

- Fast impulse breakdown
- Tight DC breakdown voltage tolerance ($\pm 10\%$)
- Rugged ceramic-metal construction
- Low capacitance

Applications

- Test equipment
- Medical electronics
- Instrumentation circuits
- TWT drive circuitry
- Avionics

Description

High Energy Devices' PMT(301) Series surge protectors (350-3500V) provide a high level of protection from high-speed, high-current transient surges. These devices are constructed using a proprietary semiconductor junction process, which results in nanosecond response times combined with peak current ratings in excess of 20kA.

Ordering Information

A complete part number is represented by the digits below. Breakdown voltages are expressed in Volts for devices $< 1000V$ and kV for devices $\geq 1kV$. For example, PMT(301)350 is a 350V PMT(301) series device and PMT(301)1.0 is a 1kV PMT(301) series device.

Standard Voltages

Series	DC Breakdown Voltage (Nom)	Unit
PMT(301)	350	V
	400	V
	500	V
	550	V
	600	V
	800	V
	1.0	kV
	1.5	kV
	2.0	kV
	2.5	kV
	3.0	kV
	3.5	kV

Devices in the PMT(301) Series with other breakdown voltages in the 350-3500V range are available upon request.

Product Series / Part Number	Breakdown Voltage
PMT(301)XXX	350-800V
PMT(301)X.X	1.0-3.5KV

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(301)350			PMT(301)400			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	315	350	385	360	400	440	V
Impulse Breakdown	80kV/μs	V_{bd}	-	-	1150	-	-	1200	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	2.0	-	-	2.0	pF
Life Ratings									
Surge Life	100A (PW=20 μs)	-	6,000	-	-	6,500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(301)500			PMT(301)550			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	450	500	550	495	550	605	V
Impulse Breakdown	80kV/μs	V_{bd}	-	-	1300	-	-	1350	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	2.0	-	-	2.0	pF
Life Ratings									
Surge Life	100A (PW=20 μs)	-	7,800	-	-	8,500	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(301)600			PMT(301)800			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	540	600	660	720	800	880	V
Impulse Breakdown	80kV/μs	V_{bd}	-	-	1400	-	-	1600	V
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	2.0	-	-	2.0	pF
Life Ratings									
Surge Life	100A (PW=20μs)	-	9,300	-	-	16,600	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(301)1.0			PMT(301)1.5			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	0.9	1.0	1.1	1.35	1.50	1.65	kV
Impulse Breakdown	80kV/μs	V_{bd}	-	-	1.8	-	-	2.3	kV
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	2.0	-	-	2.0	pF
Life Ratings									
Surge Life	100A (PW=20μs)	-	29,300	-	-	53,700	-	-	surges

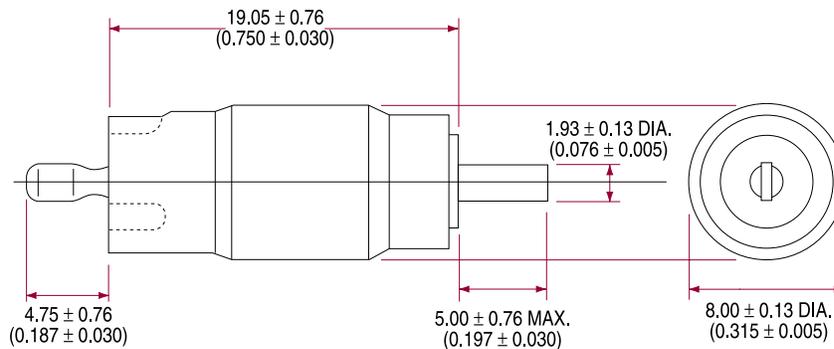
Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(301)2.0			PMT(301)2.5			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	1.8	2.0	2.2	2.25	2.50	2.75	kV
Impulse Breakdown	80kV/ μ s	V_{bd}	-	-	2.55	-	-	3.19	kV
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	2.0	-	-	2.0	pF
Life Ratings									
Surge Life	100A (PW=20 μ s)	-	68,100	-	-	68,100	-	-	surges

Specifications (@25°C)

Parameter	Conditions	Symbol	PMT(301)3.0			PMT(301)3.5			Units
			Min	Nom	Max	Min	Nom	Max	
Device Specifications									
DC Breakdown	100V/s	V_{BD}	2.7	3.0	3.3	3.15	3.50	3.85	kV
Impulse Breakdown	80kV/ μ s	V_{bd}	-	-	3.83	-	-	4.47	kV
Insulation Resistance	100V	IR	-	10^{10}	-	-	10^{10}	-	Ω
Capacitance	1MHz	C	-	-	2.0	-	-	2.0	pF
Life Ratings									
Surge Life	100A (PW=20 μ s)	-	68,100	-	-	68,100	-	-	surges

MECHANICAL DIMENSIONS mm/(inches)



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